MC 87-I-20 B(P)

PRELIMINARY REPORT
INDUSTRY SERIES

1987 Census of Manufactures

MC87-I-20B(P)
Issued July 1989

DAIRY PRODUCTS

Industries 2021, 2022, 2023, 2024, and 2026

INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified ar], therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.[1]

INDUSTRY 2021, CREAMERY BUTTER

In the 1987 Census of Manufactures, Industry 2021, Creamery Butter, had employment of 1.7 thousand. The employment figure was 23 percent below the 2.2 thousand reported in 1982. Compared with 1986, employment in 1987 was unchanged. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $1.4 billion.

In 1987, establishments in this industry accounted for 64 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was also 64. The products primary to this industry appear in table 2 and aggregated to $1.6 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to $1.3 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 2022, CHEESE, NATURAL AND PROCESSED

In the 1987 Census of Manufactures, Industry 2022, Cheese, Natural and Processed, had employment of 32.9 thousand. The employment figure was 11 percent above the 29.6 thousand reported in 1982. Compared with 1986, employment in 1987 increased 2 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $12.9 billion.

In 1987, establishments in this industry accounted for 95 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was 92 percent. The products primary to this industry appear in table 2 and aggregated to $10.7 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to $10.3 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 2023, DRY, CONDENSED, AND EVAPORATED DAIRY PRODUCTS

In the 1987 Census of Manufactures, Industry 2023, Dry, Condensed, and Evaporated Dairy Products, had employment of 14.0 thousand. The employment figure was 15 percent above the 12.2 thousand reported in 1982.

[1]**Standard Industrial Classification Manual: 1987.** For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call **Myrtle Lynch** (301) 763-2510.

U.S. Department of Commerce
BUREAU OF THE CENSUS

For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

C3.24/8:

The total value of shipments for establishments classified in this industry was $5.8 billion.

In 1987, establishments in this industry accounted for 75 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was 68 percent. The products primary to this industry appear in table 2 and aggregated to $5.8 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to $3.4 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 2024, ICE CREAM AND FROZEN DESSERTS

In the 1987 Census of Manufactures, Industry 2024, Ice Cream and Frozen Desserts, had employment of 20.3 thousand. The employment figure was 17 percent above the 17.8 thousand reported in 1982. Compared with 1986, employment in 1987 increased 12 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $3.9 billion.

In 1987, establishments in this industry accounted for 78 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was 73 percent. The products primary to this industry appear in table 2 and aggregated to $4.2 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to $2.7 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 2026, FLUID MILK

In the 1987 Census of Manufactures, Industry 2026, Fluid Milk, had employment of 72.3 thousand. The employment figure was 7 percent below the 78.2 thousand reported in 1982. Compared with 1986, employment in 1987 increased 1 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $20.7 billion.

In 1987, establishments in this industry accounted for 93 percent of products considered primary to the industry regardless of the industry in which they were produced (coverage ratio). In 1982, the coverage ratio was 92 percent. The products primary to this industry appear in table 2 and aggregated to $17.0 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to $15.2 billion in 1987. Data on specific materials consumed appear in table 3.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

-	Represents zero.
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

CONTACTS FOR DATA USERS

Subject Area	Contact	Phone
Census/ASM		
Durables	Kenneth Hansen	(301) 763-7304
Nondurables	Michael Zampogna	(301) 763-2510
Current Industrial Reports		
Durables	Malcolm Bernhardt	(301) 763-2518
Nondurables	Thomas Flood	(301) 763-5911
Import/Export Publications	Foreign Trade Division	(301) 763-5140
Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Year[1]	Companies[2] (no.)	All establishments[3] Total (no.)	All establishments[3] With 20 employees or more (no.)	All employees Number (1,000)	All employees Payroll (million dollars)	Production workers Number (1,000)	Production workers Hours (millions)	Production workers Wages (million dollars)	Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories[4] (million dollars)	Ratios Specialization (percent)	Ratios Coverage (percent)
INDUSTRY 2021, CREAMERY BUTTER															
1987 Census	42	48	26	1.7	38.9	1.3	2.8	27.4	155.5	1 269.1	1 420.2	9.7	41.2	76	64
1986 ASM	(NA)	(NA)	(NA)	1.7	40.1	1.4	2.9	28.6	89.4	1 430.1	1 531.2	8.0	34.2	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	2.0	40.9	1.7	3.3	31.1	97.6	1 478.0	1 571.0	10.5	46.0	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	2.0	41.5	1.6	3.4	30.1	83.3	1 478.7	1 563.8	7.9	45.6	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	2.2	43.2	1.7	3.5	29.7	131.2	1 610.8	1 736.7	4.0	55.8	(NA)	(NA)
1982 Census	61	74	35	2.2	40.2	1.7	3.5	28.5	135.6	1 556.1	1 686.8	8.4	54.6	77	64
1981 ASM	(NA)	(NA)	(NA)	1.7	29.6	1.3	2.8	21.2	52.4	1 208.8	1 258.0	6.9	37.0	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	1.8	29.2	1.4	2.9	20.7	58.7	1 100.9	1 151.6	6.0	33.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	2.0	29.7	1.5	3.3	20.3	81.9	967.5	1 046.4	8.2	27.7	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	2.5	31.4	1.8	3.8	21.3	97.2	941.0	1 031.7	8.0	31.8	(NA)	(NA)
1977 Census	124	138	39	2.3	26.3	1.7	3.6	18.1	74.6	822.9	900.5	8.3	24.2	80	61
1976 ASM[5]	(NA)	(NA)	(NA)	3.3	41.0	2.2	4.6	24.7	109.1	1 009.6	1 110.8	7.4	34.9	(NA)	(NA)
1975 ASM[5]	(NA)	(NA)	(NA)	3.5	39.0	2.6	4.9	24.0	139.1	870.7	1 010.8	7.7	26.9	(NA)	(NA)
1974 ASM[5]	(NA)	(NA)	(NA)	3.5	36.1	2.6	5.4	25.9	116.8	753.6	862.2	7.0	29.8	(NA)	(NA)
1973 ASM[5]	(NA)	(NA)	(NA)	3.6	30.2	2.8	5.6	21.3	97.6	720.9	815.7	10.6	24.1	(NA)	(NA)
1972 Census	201	231	63	4.0	31.0	2.9	6.0	22.1	82.3	724.7	808.3	7.8	20.5	71	70
INDUSTRY 2022, CHEESE, NATURAL AND PROCESSED															
1987 Census	476	639	309	32.9	656.8	26.9	52.6	509.6	2 612.1	10 304.5	12 926.1	145.2	872.7	86	95
1986 ASM	(NA)	(NA)	(NA)	32.3	603.0	25.9	51.8	456.2	2 306.6	9 537.2	11 892.1	140.1	756.8	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	31.5	562.2	25.7	49.8	425.2	1 910.3	9 144.3	11 060.2	133.3	746.8	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	30.0	519.5	24.4	47.8	397.9	1 947.9	8 879.3	10 837.0	121.8	784.0	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	29.8	491.1	24.2	47.0	374.4	1 957.3	8 930.7	10 907.4	147.4	765.6	(NA)	(NA)
1982 Census	575	704	319	29.6	472.1	24.1	47.4	363.3	1 777.3	9 012.7	10 762.8	161.2	798.7	89	92
1981 ASM	(NA)	(NA)	(NA)	30.6	456.9	24.5	49.0	356.7	1 642.2	8 825.5	10 429.0	138.7	808.1	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	29.5	401.6	23.4	46.9	311.0	1 438.7	7 631.2	9 047.4	123.3	749.7	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	28.3	354.0	22.6	45.2	278.4	1 221.6	6 492.8	7 654.0	99.8	664.4	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	27.4	319.3	22.8	43.6	244.3	1 055.0	5 713.1	6 734.0	75.0	605.9	(NA)	(NA)
1977 Census	660	791	293	26.7	287.0	22.2	44.0	223.4	948.7	5 200.5	6 126.0	57.2	550.4	91	93
1976 ASM	(NA)	(NA)	(NA)	30.1	300.3	24.4	48.3	229.2	823.6	5 321.4	6 106.9	63.2	545.9	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	29.8	263.8	24.6	47.9	198.9	779.8	4 449.2	5 213.9	73.2	466.9	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	29.6	235.5	24.5	46.0	179.8	698.3	4 049.1	4 688.7	57.5	426.6	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	27.5	208.5	22.5	43.7	159.0	616.9	3 274.8	3 856.7	37.9	320.9	(NA)	(NA)
1972 Census	739	872	281	25.2	186.3	20.6	40.8	137.1	492.3	2 719.0	3 195.0	49.9	252.5	89	98
INDUSTRY 2023, DRY, CONDENSED, AND EVAPORATED DAIRY PRODUCTS															
1987 Census	125	185	113	14.0	397.6	8.7	17.9	205.9	2 382.2	3 447.7	5 832.0	109.3	360.5	84	75
1986 ASM	(NA)	(NA)	(NA)	13.5	357.0	8.9	18.5	196.0	2 254.5	3 577.9	5 807.2	120.7	348.9	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	12.0	315.5	7.9	18.1	185.0	1 628.0	3 689.8	5 287.9	(D)	318.9	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	12.7	294.6	8.6	19.1	190.0	1 814.1	3 386.4	5 212.7	87.4	296.4	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	13.1	304.5	8.9	19.7	191.4	1 736.2	4 059.7	5 745.9	114.9	339.4	(NA)	(NA)
1982 Census	132	204	125	12.2	258.7	8.6	18.4	167.4	1 447.6	3 296.7	4 730.7	98.8	277.8	78	68
1981 ASM	(NA)	(NA)	(NA)	13.4	245.0	9.8	20.1	162.8	1 192.2	3 633.4	4 807.5	121.4	272.8	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	13.0	215.3	9.5	19.1	144.5	1 059.6	3 060.3	4 112.4	86.8	259.4	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	13.2	205.9	9.6	22.9	139.5	1 018.5	2 616.6	3 591.4	57.6	244.6	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	13.1	187.6	9.6	18.8	124.9	891.4	2 532.6	3 412.0	62.8	179.6	(NA)	(NA)
1977 Census	166	266	148	12.3	163.2	9.0	18.9	110.7	805.2	2 382.3	3 188.5	56.2	175.0	79	76
1976 ASM	(NA)	(NA)	(NA)	11.3	135.5	8.3	16.6	93.8	664.2	1 796.0	2 442.6	35.9	146.7	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	11.8	134.1	8.6	17.7	93.8	539.9	1 890.0	2 460.5	30.8	132.9	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	11.1	115.8	8.3	16.8	82.7	537.3	1 720.8	2 216.7	24.6	165.9	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	11.3	107.0	8.5	17.4	74.8	486.8	1 289.7	1 763.0	12.8	102.2	(NA)	(NA)
1972 Census	172	283	163	12.3	108.3	9.4	19.4	77.8	467.3	1 200.8	1 667.8	32.1	83.2	80	68
INDUSTRY 2024, ICE CREAM AND FROZEN DESSERTS															
1987 Census	461	531	212	20.3	441.0	13.8	26.9	269.0	1 262.3	2 666.8	3 914.6	137.2	281.1	93	78
1986 ASM	(NA)	(NA)	(NA)	18.2	383.2	11.7	22.3	219.0	1 074.8	2 386.5	3 459.0	105.4	232.7	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	18.9	384.7	11.7	21.5	199.8	1 040.8	2 443.4	3 476.9	(D)	218.7	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	20.0	367.2	12.2	23.1	200.4	1 007.2	2 437.7	3 435.7	84.0	206.9	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	17.7	349.7	9.5	19.7	174.0	876.6	2 104.3	2 963.4	75.5	184.4	(NA)	(NA)
1982 Census	482	552	219	17.8	313.5	11.1	20.9	177.3	910.4	1 949.0	2 855.1	79.9	177.7	94	73
1981 ASM	(NA)	(NA)	(NA)	20.1	325.6	12.0	23.0	167.1	903.3	2 036.3	2 935.3	41.8	178.1	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	19.6	288.6	12.3	23.7	163.0	733.9	1 906.7	2 637.4	46.8	196.7	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	19.9	277.4	12.3	24.3	151.9	712.6	1 678.8	2 393.7	46.3	164.4	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	18.5	252.5	11.3	21.9	136.6	621.9	1 489.4	2 096.8	56.4	142.7	(NA)	(NA)
1977 Census	507	612	229	19.1	247.0	11.4	22.7	130.1	643.7	1 368.5	2 008.6	56.8	126.6	94	75
1976 ASM	(NA)	(NA)	(NA)	16.7	223.6	11.3	22.3	125.3	553.7	1 301.9	1 851.4	43.2	113.8	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	16.6	208.5	11.1	22.0	116.4	534.3	1 217.8	1 749.4	37.2	104.2	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	21.3	196.5	11.8	22.9	108.0	490.0	1 073.6	1 556.3	27.8	103.4	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	21.3	195.9	12.1	24.1	100.0	497.1	869.6	1 360.8	29.2	83.3	(NA)	(NA)
1972 Census	561	697	273	21.1	184.7	12.0	23.5	94.7	459.8	785.6	1 244.7	35.8	71.4	96	70
INDUSTRY 2026, FLUID MILK															
1987 Census	641	934	627	72.3	1 678.6	37.0	76.1	805.5	5 478.6	15 237.1	20 690.4	342.3	472.9	85	93
1986 ASM	(NA)	(NA)	(NA)	71.4	1 590.2	34.8	71.9	748.9	5 192.6	14 279.2	19 473.7	297.8	429.2	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	73.2	1 572.3	36.1	74.3	754.0	4 952.5	14 731.3	19 679.2	322.3	442.3	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	75.8	1 525.5	37.1	74.6	717.3	4 550.2	14 800.1	19 351.8	265.3	452.1	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	76.3	1 468.9	36.3	74.1	702.1	4 398.0	14 472.5	18 865.4	258.3	409.3	(NA)	(NA)
1982 Census	853	1 190	751	78.2	1 468.7	37.4	76.8	683.6	4 088.9	14 659.1	18 736.0	363.0	411.9	83	92
1981 ASM	(NA)	(NA)	(NA)	81.3	1 405.6	37.1	79.7	638.8	4 118.3	13 421.4	17 511.9	223.8	412.7	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	85.4	1 357.4	39.7	82.5	608.1	4 185.9	12 825.4	16 981.3	274.0	387.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	89.2	1 294.2	39.6	85.1	544.8	3 874.2	11 658.0	15 523.5	211.5	346.5	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	93.0	1 312.2	40.2	88.4	545.3	3 320.1	11 313.6	14 616.5	247.7	326.4	(NA)	(NA)

See footnotes at end of table.

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Year[1]	Companies[2] (no.)	All establishments[3] Total (no.)	All establishments[3] With 20 employees or more (no.)	All employees Number (1,000)	All employees Payroll (million dollars)	Production workers Number (1,000)	Production workers Hours (millions)	Production workers Wages (million dollars)	Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories[4] (million dollars)	Ratios Specialization (percent)	Ratios Coverage (percent)
	INDUSTRY 2026, FLUID MILK—Con.														
1977 Census	1 516	1 924	908	93.5	1 215.4	40.8	86.3	505.4	3 175.9	10 631.9	13 786.2	210.5	304.0	88	94
1976 ASM	(NA)	(NA)	(NA)	102.7	1 207.7	42.0	91.0	495.1	3 110.7	10 227.7	13 318.5	186.1	272.7	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	108.7	1 177.8	43.5	91.0	473.5	2 948.7	9 288.2	12 233.4	145.3	254.3	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	115.7	1 125.5	44.8	94.4	447.0	2 981.2	8 614.2	11 555.7	164.2	268.9	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	122.7	1 123.4	47.0	95.7	417.8	2 715.6	7 520.2	10 220.2	122.5	218.3	(NA)	(NA)
1972 Census	2 025	2 507	1 287	126.1	1 086.1	48.0	99.1	400.8	2 552.4	6 854.0	9 395.7	149.2	187.4	88	96

Note: Establishments of single unit companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 2021, 3%; SIC 2022, 10%; SIC 2023, 5%; SIC 2024, 12%; SIC 2026, 15%.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Includes establishments with payroll at any time during year.

[4]Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.

[5]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus, these estimates may be of limited reliability.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987 Number of companies with shipments of $100,000 or more	1987 Product shipments[1] Quantity[2]	1987 Product shipments[1] Value (million dollars)	1982 Number of companies with shipments of $100,000 or more	1982 Product shipments[1] Quantity[2]	1982 Product shipments[1] Value (million dollars)
2021- —	**CREAMERY BUTTER**						
	Total	**(NA)**	**(X)**	**1 610.2**	**(NA)**	**(X)**	**1 975.7**
20210 —	Creamery butter:						
20210 13	Shipped in bulk (containers more than 3 lb) ---- mil lb	57	*625.8	862.3	82	808.0	1 194.8
20210 15	Shipped in consumer packages (containers 3 lb or less) ---- do	43	*454.8	682.0	58	*418.8	655.2
20210 21	Anhydrous butterfat ---- do	4	(D)	(D)	8	18.4	35.3
20210 00	Creamery butter, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	(D)	(NA)	(X)	80.9
20210 02	Creamery butter, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	29.7	(NA)	(X)	9.5
2022- —	**CHEESE, NATURAL AND PROCESSED**						
	Total	**(NA)**	**(X)**	**10 733.4**	**(NA)**	**(X)**	**9 486.9**
20223 —	Natural cheese, except cottage cheese:						
20223 00	Natural cheese, except cottage cheese (cheddar, brick, grated, cream, Swiss, Italian, etc.) ---- mil lb	215	*4 768.7	6 372.4	258	*3 685.2	5 625.6
20224 —	Process cheese and related products	(NA)	(X)	3 480.1	(NA)	(X)	3 194.3
20224 21	Process cheese ---- mil lb	52	*1 355.7	1 860.8	68	1 304.7	2 022.3
20224 23	Cheese food ---- do	21	**830.8	1 039.3	24	429.7	705.5
20224 25	Cheese spread ---- do	20	*269.1	456.8	16	214.3	350.2
20224 29	Other related cheese products, including flavored cheese dips ---- do	23	**104.2	123.2	17	*81.3	111.9
20224 00	Process cheese and related products, n.s.k.	(NA)	(X)	-	(NA)	(X)	4.4
20225 —	Cheese substitutes	(NA)	(X)	294.5	(NA)	(X)	239.7
20225 11	Products substituting for natural cheese ---- mil lb	14	*449.4	294.5	5	128.6	148.7
20225 21	Products substituting for processed cheese or related products ---- do	5			4	98.5	91.1
20225 00	Cheese substitutes, n.s.k.	(NA)	(X)	-	-	-	-
20220 —	Natural and process cheese and related products, n.s.k.	(NA)	(X)	586.4	(NA)	(X)	427.2
20220 00	Natural and process cheese and related products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	[3]255.3	(NA)	(X)	291.8
20220 02	Natural and process cheese and related products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	331.1	(NA)	(X)	135.4

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
2023- —	**DRY, CONDENSED, AND EVAPORATED MILK PRODUCTS**						
	Total	**(NA)**	**(X)**	**5 813.9**	**(NA)**	**(X)**	**5 047.6**
20235 —	Dry milk products, except substitutes	(NA)	(X)	2 418.9	(NA)	(X)	2 425.4
	Shipped in consumer type packages (containers 3 lb or less):						
20235 11	Nonfat dry milk — mil lb	9	100.5	86.9	16	203.3	219.6
20235 22	Infants' formula — do	7	122.2	261.7			
20235 29	Other dry milk products (instant chocolate milk, weight control products, whole milk powder, malted milk powder, powdered cream, etc.) — do	16	353.2	484.9	14	260.6	417.0
	Shipped in bulk (containers more than 3 lb):						
	Food grade (bakeries, confectioners, meat packers, etc.):						
20235 42	Dry whole milk — mil lb	17	*181.0	202.2	20	201.5	210.7
20235 43	Nonfat dry milk — do	34	*909.9	728.1	43	1 146.8	1 065.8
20235 45	Dry whey — do	33	962.4	221.4	40	723.8	110.2
20235 47	Modified dry whey products (lactose, milk albumin, etc.) — do	18	295.6	94.6	24	244.9	86.5
20235 49	Other food grade dry milk products — do	20	211.5	202.1	26	216.5	197.7
20235 51	Feed grade (dry milk, dry buttermilk, dry whey, etc.) — do	21	364.1	118.9	19	184.3	59.0
20235 00	Dry milk products, except substitutes, n.s.k.	(NA)	(X)	18.2	(NA)	(X)	59.0
20236 —	Canned milk products (consumer type cans), except substitutes	(NA)	(X)	1 004.8	(NA)	(X)	[r]1 114.7
20236 12	Evaporated milk — mil lb	7	535.8	290.9	7	778.1	359.9
20236 16	Condensed milk — do	5	(4)	(4)	5	(5)	(5)
20236 21	Canned dietary supplements, weight control products — do	2	(4)	(4)	4	296.9	106.9
20236 26	Infants' formula, liquid — do	4	638.0	545.8	(NA)	[r]902.3	[r]541.4
20236 28	Other canned milk products, including canned whole milk — do	8	*215.8	*168.1	6	[5]132.3	[5]106.5
20236 00	Canned milk products (consumer type cans), except substitutes, n.s.k.	(NA)	(X)	-	(NA)	(X)	-
20237 —	Concentrated milk products (shipped in bulk), except substitutes	(NA)	(X)	716.0	(NA)	(X)	370.9
20237 12	Feed grade, including concentrated whey and buttermilk — mil lb	8	(S)	18.3	17	*300.8	19.0
	Food grade, including bakeries, confectioners, etc. (except ice cream and ice milk mixes):						
20237 17	Concentrated whey in terms of solids — mil lb	23	*622.1	82.1	22	*1 088.5	57.3
20237 19	All other — do	35	1 194.7	614.3	34	905.3	267.0
20237 00	Concentrated milk products (shipped in bulk), except substitutes, n.s.k.	(NA)	(X)	1.2	(NA)	(X)	27.6
20238 —	Ice cream mix and related products	(NA)	(X)	604.0	(NA)	(X)	531.0
20238 11	Ice cream mix, ice milk mix, sherbet mix, etc. (excluding milkshake mix) — mil gal	112	211.1	470.5	135	155.6	398.5
20238 13	Milkshake mix — do	62	56.0	120.4	85	58.4	131.1
20238 00	Ice cream mix and related products, n.s.k.	(NA)	(X)	13.1	(NA)	(X)	1.4
20239 —	Dairy product substitutes	(NA)	(X)	952.8	(NA)	(X)	[r]443.9
	Dry dairy substitutes:						
20239 21	Coffee whiteners — mil lb	17	(S)	286.6	28	252.9	261.0
20239 23	Infants' formula — do	4	24.2	108.9			
20239 25	Sour cream substitutes — do	2	(D)	(D)			
20239 28	Other dry dairy subetitutes including whipped topping, etc. — do	13	56.0	43.7	(NA)	(S)	182.9
	Canned dairy substitutes:						
20239 32	Liquid infants' formula — mil lb	3	(D)	(D)			
20239 38	Other canned dairy product substitutes, including dietary supplements and weight control products — do	6	(D)	(D)			
20239 00	Dairy product substitutes, n.s.k.	(NA)	(X)	1.6	-	-	-
20230 —	Dry, condensed, and evaporated milk products, n.s.k.	(NA)	(X)	117.5	(NA)	(X)	161.7
20230 00	Dry, condensed, and evaporated milk products, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	84.9	(NA)	(X)	155.2
20230 02	Dry, condensed, and evaporated milk products, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	32.6	(NA)	(X)	6.5
2024- —	**ICE CREAM AND FROZEN DESSERTS**						
	Total	**(NA)**	**(X)**	**4 188.5**	**(NA)**	**(X)**	**3 281.1**
20240 —	Ice cream and ices:						
	Ice cream, including custards:						
20240 14	Shipped in bulk (containers 3 gal or more) — mil gal	163	*183.9	634.7	189	*146.5	466.0
20240 15	Shipped in consumer sizes (containers less than 3 gal) — do	197	634.0	1 907.7	221	561.6	1 586.4
20240 16	Novelty forms — do	106	189.4	707.1	122	117.2	452.4
	Ice milk:						
20240 21	Shipped in bulk (containers 3 gal or more) — mil gal	14	*2.7	6.9	25	7.2	17.1
20240 22	Shipped in consumer sizes (containers less than 3 gal) — do	77	56.9	115.3	72	37.9	76.1
20240 23	Novelty forms — do	36	19.6	65.8	53	35.0	70.9
20240 31	Frozen yogurt — do	17	10.6	37.5	(NA)	(X)	(6)
	Ices:						
20240 52	Water ices containing no real fruit or fruit juice — mil gal	36	34.2	94.6	57	38.0	116.8
20240 54	Ices containing some real fruit or fruit juice — do	31	17.4	91.1			
20240 71	Mellorine and similar frozen desserts containing fats other than butterfat (including tofu-type) — do	10	*5.5	11.7	19	*10.7	19.1
	Sherbet:						
20240 94	Shipped in bulk (containers 3 gal or more) — mil gal	30	8.5	22.1	48	**7.5	17.9
20240 96	All other sizes, including novelty forms — do	76	33.2	79.5	80	*31.8	76.3
20240 99	Other frozen desserts (frozen pudding, etc.) — do	22	11.6	84.2	32	*51.7	*68.4

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
2024– —	**ICE CREAM AND FROZEN DESSERTS**—Con.						
20240 —	Ice cream and ices—Con.						
20240 00	Ice cream and frozen desserts, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	239.1	(NA)	(X)	227.8
20240 02	Ice cream and frozen desserts, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	91.2	(NA)	(X)	85.9
2026– —	**FLUID MILK**						
	Total	**(NA)**	**(X)**	**17 018.0**	**(NA)**	**(X)**	**[7]15 658.0**
20261 —	Bulk fluid milk and cream	(NA)	(X)	3 165.3	(NA)	(X)	3 037.6
20261 12	Fluid whole milk, bulk sales—mil lb	136	*9 865.8	1 361.5	181	11 054.1	1 494.6
20261 15	Fluid skim milk, bulk sales—do	35	*1 166.9	155.2	43	2 015.4	189.4
20261 16	Fluid cream and buttermilk, bulk sales—do	198	2 883.2	1 395.1	218	1 672.6	1 180.7
20261 19	Other bulk fluid milk and cream (eggnog, lowfat, etc.)—do	30	235.3	121.6	43	233.7	99.9
20261 00	Bulk fluid milk and cream, n.s.k.	(NA)	(X)	131.9	(NA)	(X)	73.1
20262 —	Packaged fluid milk and related products, including cartons, bottles, cans, and dispenser cans	(NA)	(X)	9 967.0	(NA)	(X)	9 115.0
20262 12	Fluid whole milk, packaged (including U.H.T.)—mil qt	235	9 889.2	4 633.0	351	11 244.6	5 116.7
20262 23	Low fat milk, packaged (including U.H.T.)—do	219	8 065.8	3 231.4	310	6 162.3	2 474.1
20262 25	Skim milk, packaged (including U.H.T.)—do	184	*1 522.2	573.1	232	*1 204.9	446.3
20262 32	Cream, heavy (whipping cream containing 36 percent butterfat or more)—do	76	131.5	137.2	85	*43.1	80.7
20262 43	Cream, light (coffee cream containing less than 36 percent butterfat)—do	45	71.5	64.8	41	82.6	91.2
20262 45	Cream, sour, unflavored—do	89	*376.2	313.1	98	186.4	227.6
20262 52	Half and half—do	106	*295.6	236.5	130	235.3	213.0
20262 63	Whipped topping, butterfat base—mil lb	17	*28.0	51.1	12	(S)	27.0
20262 00	Packaged fluid milk and related products, n.s.k.	(NA)	(X)	726.7	(NA)	(X)	438.5
20263 —	Cottage cheese (including bakers' cheese, pot cheese, and farmers' cheese)	(NA)	(X)	689.1	(NA)	(X)	683.2
20263 13	Manufactured and creamed at the plant—mil lb	81	913.3	595.9	118	871.3	576.8
20263 16	Manufactured at the plant, sold as curd (not creamed)—do	17	28.7	26.3	13	*63.0	41.2
20263 18	Creamed at the plant from purchased curd—do	8	51.3	35.3	6	77.4	51.4
20263 00	Cottage cheese, n.s.k.	(NA)	(X)	31.6	(NA)	(X)	13.8
20265 —	Yogurt, except frozen:						
20265 00	Yogurt, except frozen—mil lb	46	*1 088.7	685.3	52	*648.2	403.7
20267 —	Products which substitute for fluid milk products	(NA)	(X)	129.4	(NA)	(X)	[7]134.8
20267 11	Flavored dips—mil qt	9	19.0	21.5	18	28.9	[8]28.6
20267 13	Whipped topping, nonbutterfat base (including pressure can type)—mil lb	14	55.3	31.9	18	(S)	[9]25.9
20267 14	Coffee whiteners—mil qt	18	74.8	44.5	(NA)	(X)	([10])
20267 16	Sour cream substitutes	11	(X)	8.9	(NA)	(X)	([10])
20267 17	Substitute dairy flavored drinks (chocolate drink, etc.)—mil qt	19	37.6	15.8	24	111.0	[8 11]48.9
20267 18	Other perishable dairy product substitutes	4	(X)	6.3	21	(X)	31.4
20267 00	Products which substitute for fluid milk products, n.s.k.	(NA)					
20268 —	Other packaged milk products, n.e.c.	(NA)	(X)	844.7	(NA)	(X)	705.0
20268 13	Flavored sour cream dips	152	(X)	84.9	48	45.4	[12]54.5
20268 15	Flavored milks (chocolate milk, etc.)—mil qt	150	897.5	492.1	193	693.8	[13]380.6
20268 19	Other milk products (eggnog, buttermilk, acidophilus milk, reconstituted milk, etc.)—do	129	477.3	265.5	136	473.6	[14]235.4
20268 00	Other packaged milk products, n.e.c., n.s.k.	(NA)	(X)	2.3	(NA)	(X)	34.5
20260 —	Fluid milk and related products, n.s.k.	(NA)	(X)	1 537.2	(NA)	(X)	1 578.7
20260 00	Fluid milk and related products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	1 295.4	(NA)	(X)	1 422.3
20260 02	Fluid milk and related products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	241.8	(NA)	(X)	156.4

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

[1]Data reported by all producers, not just those with shipments of $100,000 or more.
[2]For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).
[3]Includes $1.1 million of raw liquid whey.
[4]For 1987, data for product codes 2023612, 2023616, and 2023628 were combined to avoid disclosing operations of individual companies.
[5]For 1987, data for product code 2023616 were included with data for product code 2023628.
[6]For 1982, data for pruduct code 2024031 were included with data for product code 2024099.
[7]For 1982, data for industry 2026 includes data that were published with product class 2099B.
[8]For 1982, data for product code 2026711 were published as product code 2099B11.
[9]For 1982, data for product code 2026713 were published as product code 2099B13.
[10]For 1982, data for product codes 2026714, 2026716, and 2026718 were published as product code 2099B19.
[11]For 1982, data for product code 2026717 were published as product code 2026617.
[12]For 1982, data for product code 2026813 were published as product code 2099B51.
[13]For 1982, data for product code 2026815 were published as product code 2026615.
[14]For 1982, data for product code 2026819 were published as product code 2026619.

Table 3. Materials Consumed by Kind: 1987 and 1982

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987 Quantity[1]	1987 Delivered cost (million dollars)	1982 Quantity[1]	1982 Delivered cost (million dollars)
	INDUSTRY 2021, CREAMERY BUTTER				
	Materials, ingredients, containers, and supplies	**(X)**	**1 214.5**	**(X)**	**1 490.8**
024111	Whole milk — mil cwt	*19.9	246.2	32.1	421.9
202613	Cream — do	(S)	841.2	(S)	868.3
265001	Paperboard containers, boxes, and corrugated paperboard	(X)	26.4	(X)	14.5
970099	All other materials, ingredients, containers, and supplies	(X)	77.0	(X)	97.1
971000	Materials, ingredients, containers, and supplies, n.s.k.[2]	(X)	23.7	(X)	89.0
	INDUSTRY 2022, CHEESE, NATURAL AND PROCESSED				
	Materials, ingredients, containers, and supplies	**(X)**	**9 261.2**	**(X)**	**8 274.7**
024111	Whole milk — mil cwt	*405.7	4 823.9	322.0	4 829.8
202612	Fluid skim milk — do	(S)	22.5	(X)	(3)
202613	Cream — do	3.6	285.9	3.1	217.0
202301	Condensed and evaporated milk — mil lb	126.7	34.3	73.5	23.7
202311	Dry milks — do	79.7	64.3	37.8	35.0
202302	Whey, liquid, concentrated, dried, and modified whey products — do	*393.5	48.3	(S)	26.2
190035	Casein and caseinates — do	43.8	45.4	57.3	81.9
202210	Natural cheese, other than cottage cheese — do	**1 481.5	1 909.7	1 047.3	1 530.1
207006	Fats and oils, all types — do	(S)	71.4	87.9	39.3
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	(X)	24.2	(X)	29.7
	Containers:				
322101	Glass — 1,000 gross	(D)	(D)	(S)	7.4
308015	Plastics	(X)	38.0	(X)	25.0
265001	Paperboard containers, boxes, and corrugated paperboard	(X)	162.6	(X)	131.0
341101	Metal cans	(X)	(D)	(X)	12.6
970099	All other materials, ingredients, containers, and supplies	(X)	675.8	(X)	3467.9
971000	Materials, ingredients, containers, and supplies, n.s.k.[2]	(X)	1 018.2	(X)	818.1
	INDUSTRY 2023, DRY, CONDENSED, AND EVAPORATED DAIRY PRODUCTS				
	Materials, ingredients, containers, and supplies	**(X)**	**2 828.3**	**(X)**	**2 985.3**
024111	Whole milk — mil cwt	*107.9	1 254.8	126.2	1 579.6
202612	Fluid skim milk — do	(S)	38.2	4.3	32.3
202613	Cream — do	*1.5	107.8	1.4	105.2
202301	Condensed and evaporated milk — mil lb	202.3	57.7	(S)	68.4
202311	Dry milks — do	**161.6	124.0	192.7	179.1
202302	Whey, liquid, concentrated, dried, and modified whey products — do	*710.8	104.2	*559.7	53.7
190035	Casein and caseinates — do	84.5	85.7	50.5	69.9
206601	Chocolate (compounds, cocoa, chocolate liquor, coatings, etc.) — do	26.7	17.9	18.4	11.5
190036	Flavorings (natural, artificial, imitation, etc.)	(X)	27.4	(X)	6.3
207006	Fats and oils, all types — mil lb	169.1	42.7	186.9	56.8
	Sweeteners:				
204604	High fructose corn syrup in terms of solids (HFCS) — mil lb	138.4	11.7	(X)	(3)
204611	Crystalline fructose (dry fructose) — do	1.0	.6	(X)	(3)
204612	Dextrose and corn syrup, including corn syrup solids in terms of dry weight — do	137.4	18.1	(X)	(3)
206011	Sugar (cane and beet) in terms of sugar solids — 1,000 s tons	120.7	53.0	100.9	46.4
	Containers:				
322101	Glass containers — 1,000 gross	(S)	32.9	(S)	32.5
265001	Paperboard containers, boxes and corrugated paperboard	(X)	97.4	(X)	57.7
341101	Metal cans	(X)	143.9	(X)	146.0
970099	All other materials, ingredients, containers, and supplies	(X)	446.7	(X)	3366.6
971000	Materials, ingredients, containers, and supplies, n.s.k.[4]	(X)	163.6	(X)	173.3
	INDUSTRY 2024, ICE CREAM AND FROZEN DESSERTS				
	Materials, ingredients, containers, and supplies	**(X)**	**2 201.2**	**(X)**	**1 625.8**
024111	Whole milk — mil cwt	*14.8	171.8	*9.7	135.8
202612	Fluid skim milk — do	1.0	36.1	.7	17.9
202613	Cream — do	*5.3	408.6	5.4	379.3
202301	Condensed and evaporated milk — mil lb	*247.9	102.7	226.7	86.4
202311	Dry milks — do	*44.9	34.6	46.1	40.5
202302	Whey, liquid, concentrated, dried, and modified whey products — do	*75.6	20.2	51.8	10.7
202101	Butter — do	**3.6	4.8	2.7	4.3
202401	Ice cream mix, sherbet mix, and ice milk mix — mil gal	*94.1	197.8	40.0	102.1
206601	Chocolate (compounds, cocoa, chocolate liquor, coatings, etc.) — mil lb	82.7	75.1	55.6	45.5
190036	Flavorings (natural, artificial, imitation, etc.)	(X)	192.5	(X)	103.3
	Sweeteners:				
204604	High fructose corn syrup in terms of solids (HFCS) — mil lb	150.9	20.3	(X)	(3)
204611	Crystalline fructose (dry fructose) — do	36.8	4.5	(X)	(3)
204612	Dextrose and corn syrup, including corn syrup solids in terms of dry weight — do	216.0	18.6	(X)	(3)
206011	Sugar (cane and beet) in terms of sugar solids — 1,000 s tons	218.1	86.8	254.4	95.2
265001	Paperboard containers, boxes, and corrugated paperboard	(X)	268.8	(X)	186.1
970099	All other materials, ingredients, containers, and supplies	(X)	318.7	(X)	3199.0
971000	Materials, ingredients, containers, and supplies, n.s.k.[2]	(X)	239.3	(X)	219.7

See footnotes at end of table.

Table 3. Materials Consumed by Kind: 1987 and 1982—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 2026, FLUID MILK				
	Materials, ingredients, containers, and supplies	**(X)**	**13 112.2**	**(X)**	**12 957.1**
024111	Whole milk, mil cwt	*624.4	8 586.0	633.2	8 669.0
202612	Fluid skim milk, do	28.1	302.9	*20.7	192.0
202613	Cream, do	*4.4	277.1	*4.2	242.1
202301	Condensed and evaporated milk, mil lb	176.3	48.6	167.2	52.5
202311	Dry milks, do	*138.2	106.2	215.0	162.6
202302	Whey, liquid, concentrated, dried; and modified whey products, do	(S)	28.9	146.7	23.6
202401	Ice cream mix, sherbet mix, and ice milk mix, mil gal	**42.0	91.7	27.6	57.5
206601	Chocolate (compounds, cocoa, chocolate liquor, coatings, etc.), mil lb	(S)	51.1	**46.3	34.9
190036	Flavorings (natural, artificial, imitation, etc.)	(X)	181.1	(X)	139.6
207006	Fats and oils, all types, mil lb	(S)	15.5	*11.4	3.5
	Sweeteners:				
204604	High fructose corn syrup in terms of solids (HFCS), mil lb	**516.5	54.4	(X)	[3]
204611	Crystalline fructose (dry fructose), do	(S)	4.2	(X)	[3]
204612	Dextrose and corn syrup, including corn syrup solids in terms of dry weight, do	**161.3	16.7	(X)	[3]
206011	Sugar (cane and beet) in terms of sugar solids, 1,000 s tons	*248.1	66.9	309.5	110.1
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes, mil lb	*359.4	126.3	*244.3	97.5
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	(X)	9.5	(X)	17.1
	Containers:				
322101	Glass containers, 1,000 gross	(S)	8.1	(S)	4.6
308015	Plastics containers	(X)	328.9	(X)	268.9
265001	Paperboard containers, boxes, and corrugated paperboard	(X)	528.6	(X)	527.8
341101	Metal cans	(X)	26.0	(X)	30.9
970099	All other materials, ingredients, containers, and supplies	(X)	700.5	(X)	[3]582.8
971000	Materials, ingredients, containers, and supplies, n.s.k.[2]	(X)	1 553.0	(X)	1 740.1

[1]For some establishments, data have been estimated from central unit values which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]For 1982, data for these material codes were included with data for material code 970099.

APPENDIX
Scope and Coverage and Explanation of Terms

GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

EXPLANATION OF TERMS

Number of establishments and companies–A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

All employees–Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

Production workers–Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., powerplant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

Other employees–Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

Payroll–Includes the gross earnings for the "employees" defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

Production-worker hours–Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials–Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

Specific materials consumed (table 3)–In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. Establishments consuming less than a specified amount (usually $10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as "not specified by kind" (n.s.k.).

Value of shipments and other receipts–Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead and profit).

Shipments or production of individual products (table 2)–In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

Value added by manufacture–This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value

added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

Expenditures for new plant and equipment–Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

End-of-year inventories–Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method. Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

Specialization and coverage ratios–An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

Specialization ratio–Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio–Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.